REMARKS

Applicant respectfully submits that the rejections made in the Office Action mailed on November 14, 2003 in the above-referenced case represent a dramatic and troubling example of hindsight reconstruction. This case has been with the Examiner now for almost five years. Perhaps in that time the inventive features have become familiar to him. They remain new to the art, however, as demonstrated by the Examiner's inability to find a single reference that *teaches or suggests* the claimed golf clubs with lean angles.

Over seven Office Actions, including citations of 22 references (in addition to the 28 cited by Applicant), two personal and one telephonic interviews, and two Declarations from experienced golf manufacturers, the Examiner has identified no references or prior art documents evidencing that anyone had ever contemplated a golf club containing a lean angle as recited in the present claims. Instead, the Examiner has turned up plenty of references (e.g., Antonius '662, Solheim, etc.) that, consistent with the general golfing knowledge, *teach away* from the claimed lean angle clubs.

The Examiner has worked very hard to find evidence of the claimed invention in the prior art, scrounging up truly bizarre devices (e.g., double shafted training clubs [Izett], clubs with serpentine shafts [Knox], clubs to which the shaft is mounted on the rear face of the head [MacDonald], a wedge with a tri-level sole [Adams]) that in fact do not represent the claimed invention but could have been construed, if effort were applied, to have fallen within the language of some of the earlier versions of the claims. The Examiner has finally resorted to scouring the literature for any picture of a golf club that could be construed to have a non-zero lean angle.

None of the references now cited by the Examiner mentions a lean angle, or the desirability of such. Each reference contains many pictures of the intended club heads; most depict only a tiny portion of a shaft, and do not discuss the shaft or shaft-head connection, at all. In some such pictures, the Examiner sees a lean angle, though there is no indication in the supporting text that the cited picture is intended to depict a club any different from those in the other pictures. Even in responding to Applicant's comments, the Examiner offers no *evidence* that the prior art disclosures intended to represent a golf club with a lean angle.

After understanding and considering the features and advantages of the claimed golf clubs, the Examiner has returned to the literature time and time again to try to find evidence of

prior development. There is none. The references relied on by the Examiner simply do not teach what he cites them for. Furthermore, the Examiner has substituted his own opinion for the documented views of two different experienced golf club manufacturers.

The presently claimed golf clubs are novel and non-obvious. The claims are fully supported by the specification. The patent should issue.

Each of the levied rejections is discussed individually in detail below.

Thompson (alone or in view of Scheie)

This rejection is unchanged from the prior Office Action. The Examiner points to Fig. 2 of Thompson as depicting an iron-type club whose shaft forms a non-zero lean angle with the vertical when the head rests on its sole with its impact face positioned at its design loft. Applicant respectfully disagrees.

Thompson has five Figures, all of the same golf club head. The inventive features of this head, as described by Thompson, are its downwardly tapered keel and weight-receiving passage(s) between the keel and a hollow in the rear side of the head. Fig. 2 is said to be a toe end elevation of the head (Drawing Description, column 1, line 68). Other than this characterization, there is no specific description of Fig. 2 in Thompson. Furthermore, there is no discussion relating to *any* of the Figures that addresses the shaft/head connection. All we know is that the iron that is depicted "is intended to represent a wedge" (column 2, lines 15-16). Thus, those of ordinary skill in the art would understand that, other than its keel and weighting features, the depicted club is a *standard wedge*. As Applicant has previously documented through Declaratory and other evidence, a standard wedge has a zero lean angle (see, for example, ¶ 4, 6 and 11 of the Declaration by Mr. John Hampford, President and CEO of Hoffman Forged Products, that was filed on November 15, 2001). This evidence establishes that the claimed golf clubs, containing a lean angle, are a *radical* departure from the standard.

To the extent that the actual picture presented in Fig. 2 could be viewed as having a lean angle (in hindsight after considering the present specification), those of ordinary skill in the art would have understood it to be merely an inaccurate representation of a standard club. There is no indication in Fig. 2, or anywhere else in Thompson, that the Figures are drawn to scale, or with angular precision. It is well established that unexplained features of a drawing must be evaluated for what they *reasonably* disclose and suggest to one of ordinary skill in the art. *In re*

Aslanian, 590 F.2d 911, 200 USPQ 500 (CCPA 1979). Fig. 2 of Thompson would not reasonably disclose the claimed golf clubs to a person of ordinary skill in the art. In support of this position, Applicant has enclosed a Declaration under 37 CFR 1.132 by J. Rodney Loesch, Director of Golf at the Connecticut Golf Club, President of the Metropolitan PGA, and person of at least ordinary skill in the art. Mr. Loesch has reviewed the present specification and the Thompson reference, and concludes that Figure 2 of Thomspon is not intended to be an accurate scaled drawing, and does not teach a club with a lean angle. The rejections over Thompson should be removed.

Scheie et al., like Thompson, describes golf club heads whose unusual feature is their weighting; other aspects of the heads and clubs that incorporate them are standard. Thus no combination of Thompson with Scheie et al. could render obvious the present claims; this rejection should also be removed.

The Examiner has maintained his rejections over Thompson (and Scheie) by stating "the more the Examiner searches the more woods/irons are found with lean angles". The evidence offered in support of this statement is "see the *conclusion below* as well as previous cited art". Applicant finds these comments remarkable. The previous cited art did not teach lean-angle containing clubs as recited in the claims. If it had, the Examiner would not have had to keep searching. Thus, the only *evidence* provided that Thompson describes a lean-angle containing golf club is the Examiner's *conclusion* that it does.

For those claims (50 and 52) that relate to forged or cast clubs, the Examiner has included Scheie, which is relied upon for teaching forging or casting of a head. A reference to Scheie for forging or casting of a head is not necessary, as forging and casting were certainly known in the art. In fact, the reference to forging and casting in Scheie is one to "conventional investment casting and forging techniques" (Scheie column 4, lines 1-2). Scheie describes a club head with a cavity designed to achieve particular weighting characteristics. There is no discussion of the connection between head and shaft. In fact, no shaft is depicted anywhere in Scheie! A combination of Thompson and Scheie would yield a golf club with a very bizarre head, but a standard connection between head and shaft. No such combination could render obvious the presently claimed invention.

Ahn (in view of Hirose and Scheie or Hirose, Scheie, and Adams)

This rejection is new to the Final Office Action. In the prior Office Action, the Examiner had cited but not relied upon Ahn.

Ahn describes golf clubs that include a means for increasing, decreasing or adjusting the position and amount of weights in a golf club head (e.g., see Abstract). Ahn does not discuss the design loft or bounce of the golf club heads, nor does Ahn discuss the concepts of effective loft and lean angle. There is no teaching or suggestion in Ahn of the claimed golf clubs. The inventive feature of Ahn is the adjustable weight of the golf club heads; those of ordinary skill in the art would understand other aspects of the depicted clubs to be conventional. As discussed above, Applicant has already established that a lean angle represents a *radical* departure from the conventional (both at the time Ahn was filed and today). There is no discussion in Ahn of the desirability of a lean angle, but the Examiner purports to find one in Fig. 5. No dimensions are given in Fig. 5, the ground is not indicated, and only a tiny piece of shaft is shown. Applicant has previously argued that, to the extent that Fig. 5 (or any other Fig. in Ahn) could be construed to depict a club with a lean angle, it is merely because the Figure is an inaccurate rendering of a standard club. The Examiner has disagreed.

For purposes of argument, Applicant has assumed that the Examiner is correct that Fig. 5 of Ahn was intended to be an accurate, scaled drawing. As shown in the attached Appendix, Applicant has attempted to define a reasonable ground line and its perpendicular in order to calculate any depicted "lean angle". According to these calculations, the indicated "lean angle" would be 15°. Applicant has performed a similar analysis for Figs, 2, 9, and 12, and has calculated "lean angles" of 14°, 12°, and 15° respectively. Even if the Examiner were correct, therefore, and Ahn did intend to depict a lean angle, it would be outside the scope of the claimed lean angle recited, for example, in claims 53 or 66. Moreover, as discussed more fully below, similar analyses of the other references pointed to by the Examiner make perfectly clear that Ahn, like the other references (all of which describe some novel aspect of a golf club *head*), does not intend to accurately represent the head/shaft connection.

In the last Office Action, the Examiner referred to Ahn together with Solheim (specifically Fig. 6 of Solheim). The Examiner has dropped the reference to Solheim in the Final Office Action, and it is a telling omission. As Applicant has previously discussed, Solheim, like many other prior art references, teaches explicitly that the club of Fig. 6 (or Fig. 3 or 5) has a zero lean angle. Indeed, the lean angle is the angle measured between the shaft and the vertical

when the head rests on its sole so that its face achieves its design loft. Figs. 3, 5 and 6 of Solheim show a club that has a vertical shaft (i.e., zero lean angle) when the head rests on its sole so that its face achieves its design loft (the design loft is labeled angle "A" in Figs. 3, 5 and 6, see lines 24-26, column 3). Thus, Solheim is another example of the understanding, well established in the art prior to the present invention, that clubs should be forged with a zero lean angle.

The Examiner has replaced the Solheim reference with reference to Hirose. Hirose is relied upon as showing an iron club having a single straight shaft, which it does. The single straight shaft of Hirose is connected to the head of the club with no lean angle. There is no combination of Ahn and Hirose that could render obvious the presently claimed invention. In fact, even assuming that a person of ordinary skill in the art would read Ahn to teach a golf club containing a lean angle, Applicant respectfully submits that such a person, wishing to manufacture a golf club based on the teachings of Ahn and Hirose, would be much more likely to select the standard, no-lean-angle connection of Hirose rather than the 15° "lean angle" of Ahn.

Scheie has been discussed above and adds nothing to any combination of Ahn and Hirose that could render obvious the claimed invention.

Adams (in view of Hirose)

This rejection is also unchanged from the prior Office Action. The Examiner points to Figs. 3-5 of Adams as depicting an iron-type club whose shaft forms a non-zero lean angle with the vertical when the head rests on its sole with its impact face positioned at its design loft. Applicant respectfully disagrees. The heads of the presently claimed golf clubs have a single design loft which is in stark contrast with the clubs of Adams (see Figs. 3-5). The golf clubs of Adams are designed to overcome the limitations of golf clubs with single design lofts and Adams even explicitly *teaches away* from such golf clubs (see, column 1, lines 29-40):

> "Normally the sole or bottom surface of a golf club is designed to lie flat on the ground surface to position the club face at a predetermined face loft angle. A golfer may manipulate the club face of a particular lofted club to alter the loft face angle, however this results in the sole of the club head being angled, that is not flat, with respect to the ground surface. To enable a golf club to be used for a number of different loft angles, golf clubs with multiple uses have been developed having a plurality of ground engaging surfaces, each with different angular configurations whereby a single golf club may

functionally take the place of two or more golf clubs with different lofts."

Hirose is relied on to teach a limitation that is only present in a dependent claim (single straight shaft) and does not remedy the deficiencies of Adams. Scheie is also relied on to teach a limitation that is only present in a dependent claim (the head and hosel being forged or cast) and does not remedy the deficiencies of Adams. Withdrawal of the rejection is respectfully requested.

In the Final Office Action, the Examiner does not respond to Applicant's prior comments with respect to Adams.

Prior Art Made of Record and Not Relied On

As with the last Office Action, the Examiner cites to certain art that is not relied upon, but that is considered pertinent. Applicant submits that this art further demonstrates the novelty and nonobviousness of the present invention.

For instance, the Examiner points to Fig. 1B of D'Amico as showing "an iron club being used with a lean angle". Of course, a standard iron club cannot be "used with a lean angle" because the "lean angle" refers to the forged angle between the shaft and the head. D'Amico shows a golfer using a standard club in a swing that de-lofts the club. Prior to the present invention, this strategy was common. In fact, one aspect of the present invention was the recognition of the disadvantages of using such an angled swing with a standard club. For example, as illustrated in Figs. 3-5 of the present specification and discussed at page 9, line 21-page 11, line 6, it is common for golfers to tilt (and de-loft) an existing club for a particular shot. However, as taught by the present invention, such tilting deprives the golfer of the benefits of other features of the golf club head. The presently claimed clubs differ from standard clubs in the attachment of the shaft to the head at a non-zero lean angle. For example, where Fig 7a of the present specification could represent a standard club, Figs. 7b and 7c represent inventive clubs. They are patentably distinct.

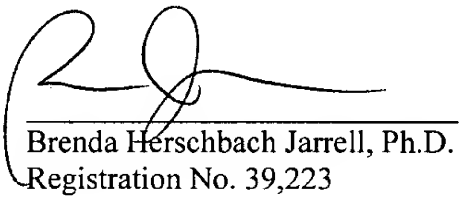
In addition to D'Amico, the Examiner points to a reference by Blough and five by Antonious. According to the Examiner, each of these references includes at least one Figure depicting a club with a lean angle as recited in the present claims. The Examiner is mistaken. Like Thompson and Ahn, each of these references discusses a novel feature of a club head.

None mentions a shaft, or anything about the shaft/head connection. None depicts more than a minimal shaft component. Each is concerned with discussing and illustrating only the relevant feature of the club head. None intends to provide an accurate, scaled depiction of any other aspect of a golf club. Applicant has attempted to calculate a lean angle for each of the Figures pointed out by the Examiner. Of course, as no ground line is indicated, and no design loft is designated for any head, Applicant has had to make a "best guess". The results of these calculations make abundantly clear that the authors were not intending to provide accurate representations. For example, Fig. 3 of Blough, if taken as an accurate, scaled representation, would show a club with a 30° "lean angle"! Applicant respectfully submits that it strains credibility to assert that a 30° lean angle was intended literally. Comparably, Fig. 3 of the Antonious '386 patent would show a 25° "lean angle"! None of the other Figures, even if taken literally, would show a "lean angle" within the range of 3-10°. Moreover, most are so large as to be clearly not intended as literal representations. Notwithstanding the Examiner's personal opinion, the prior art does not in fact teach or suggest the claimed golf clubs having a lean angle.

CONCLUSION

Based on the arguments presented above, it is submitted that the pending claims, as amended herein, are allowable over the art of record. A Notice to that effect is respectfully requested. It is not believed that extensions of time or fees for net addition of claims are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required for consideration of this paper (including fees for net addition of claims) are authorized to be charged to our Deposit Account No. 03-1721.

Respectfully submitted,



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